

Author Index

Alg, Robert, 14
Amsz, Joe, Jr., 68
Anderson, Harlan D., 135
Ayres, John C., 296, 302

Banwart, George J., 296
Bartram, M. T., 130
Bateman, J. B., 178
Beesch, Samuel C., 85
Benedict, Robert G., 124
Berger, F. M., 146
Bilse, I. M., 142
Blackwell, Maurice, J., 187
Block, S. S., 287
Braley, S. A., Sr., 61, 65
Braun, Werner, 178
Brewer, Glenn A., Jr., 163
Butler, R. G., 96

Campbell, Jack J. R., 156
Castellani, A. G., 195
Castor, J. G. B., 97
Chiao, J. S., 42
Cohen, Arthur L., 168
Colmer, Arthur R., 184
Corke, C. T., 110
Costilow, R. N., 314, 320, 327

Dale, R. F., 68
Davey, V. F., 208
Day, William C., 78
Deatherage, F. E., 57
Delchamps, Earsie W., 255
Dulmage, Howard T., 103

Eigelsbach, H. T., 178
Engel, S. L., 142

Fabian, F. W., 199, 204, 243 314, 320, 327
Field, J. Thomas, 112
Foda, I. Omar, 82
France, R. L., 247
Frank, Milton A., Sr., 14
Frobisher, Martin, Jr., 187

Gamble, S. J. R., 96
Gleen, H., 70
Goetshius, G. R., 271
Gottlieb, Sidney, 78
Graham, D. M., 138
Gray, P. H. H., 211
Grinsfelder, H., 271

Haddad, Samir A., 153
Hartman, Roberta S., 178
Herring, Ruth, 178
Hoover, Sam R., 262
Hurley, Norman A., 302
Hall, Harlow H., 124
Hankinson, D. J., 24
Hartsell, S. E., 36
Hubbard, C. V., 146

Jackson, Richard W., 124
Jann, Gregory J., 224
Jasewicz, Lenore, 262
Johnson, Marvin J., 52, 163, 208
Johnson, Richard B., 252

Kersey, R. C., 150
Kitos, Paul A., 156
Klarmann, Emil G., 19
Konetzka, Walter A., 171
Kossack, Carl F., 236
Krumperman, Paul H., 82

Lechevalier, H. A., 110
Leghorn, F. V., 150
Leininger, Harold V., 119
Lepovetsky, B. C., 57
Lewis, Martha, 278
Lindegren, Carl C., 153
Litsky, Warren, 247
Ludwig, B. J., 146

Martin, Walter H., 171
McBee, R. H., 106
McCleskey, C. S., 119
McCoy, Elizabeth, 228, 307
McIntyre, Lois D., 61, 65
McKinney, Ross E., 259
Michener, H. David, 215
Miller, M. W., 174
Morris, Russell C., 112
Moyer, Andrew J., 1, 7
Mrak, E. M., 174
Murray, F. J., 293

Nadel, Hyman, 217
Nashif, S. A., 47
Nelson, Everett A., 135
Nelson, F. E., 47
Nisonger, L. L., 293
North, W. R., 130

Pappagianis, Demosthenes, 82
Pelczar, Michael J., Jr., 78, 171
Peppier, H. J., 68
Pessen, Helmut, 30
Peterson, W. H., 42
Ping Shu, 68
Pinzelik, John, 293
Pivnick, Hilliard, 199, 204
Poe, Charles F., 112
Porges, Nandor, 262
Potter, N. N., 138
Pratt, Yolanda T., 171
Prouty, C. C., 250

Quastel, J. H., 70, 282

Randles, Chester, I., 217
Reitman, Morton, 14
Rodgers, R. D., 178
Rosenbaum, M. J., 247

Author Index

Alg, Robert, 14
Amsz, Joe, Jr., 68
Anderson, Harlan D., 135
Ayres, John C., 296, 302

Banwart, George J., 296
Bartram, M. T., 130
Bateman, J. B., 178
Beesch, Samuel C., 85
Benedict, Robert G., 124
Berger, F. M., 146
Bilse, I. M., 142
Blackwell, Maurice, J., 187
Block, S. S., 287
Braley, S. A., Sr., 61, 65
Braun, Werner, 178
Brewer, Glenn A., Jr., 163
Butler, R. G., 96

Campbell, Jack J. R., 156
Castellani, A. G., 195
Castor, J. G. B., 97
Chiao, J. S., 42
Cohen, Arthur L., 168
Colmer, Arthur R., 184
Corke, C. T., 110
Costilow, R. N., 314, 320, 327

Dale, R. F., 68
Davey, V. F., 208
Day, William C., 78
Deatherage, F. E., 57
Delchamps, Earsie W., 255
Dulmage, Howard T., 103

Eigelsbach, H. T., 178
Engel, S. L., 142

Fabian, F. W., 199, 204, 243 314, 320, 327
Field, J. Thomas, 112
Foda, I. Omar, 82
France, R. L., 247
Frank, Milton A., Sr., 14
Frobisher, Martin, Jr., 187

Gamble, S. J. R., 96
Gleen, H., 70
Goetshius, G. R., 271
Gottlieb, Sidney, 78
Graham, D. M., 138
Gray, P. H. H., 211
Grinsfelder, H., 271

Haddad, Samir A., 153
Hartman, Roberta S., 178
Herring, Ruth, 178
Hoover, Sam R., 262
Hurley, Norman A., 302
Hall, Harlow H., 124
Hankinson, D. J., 24
Hartsell, S. E., 36
Hubbard, C. V., 146

Jackson, Richard W., 124
Jann, Gregory J., 224
Jasewicz, Lenore, 262
Johnson, Marvin J., 52, 163, 208
Johnson, Richard B., 252

Kersey, R. C., 150
Kitos, Paul A., 156
Klarmann, Emil G., 19
Konetzka, Walter A., 171
Kossack, Carl F., 236
Krumperman, Paul H., 82

Lechevalier, H. A., 110
Leghorn, F. V., 150
Leininger, Harold V., 119
Lepovetsky, B. C., 57
Lewis, Martha, 278
Lindegren, Carl C., 153
Litsky, Warren, 247
Ludwig, B. J., 146

Martin, Walter H., 171
McBee, R. H., 106
McCleskey, C. S., 119
McCoy, Elizabeth, 228, 307
McIntyre, Lois D., 61, 65
McKinney, Ross E., 259
Michener, H. David, 215
Miller, M. W., 174
Morris, Russell C., 112
Moyer, Andrew J., 1, 7
Mrak, E. M., 174
Murray, F. J., 293

Nadel, Hyman, 217
Nashif, S. A., 47
Nelson, Everett A., 135
Nelson, F. E., 47
Nisonger, L. L., 293
North, W. R., 130

Pappagianis, Demosthenes, 82
Pelczar, Michael J., Jr., 78, 171
Peppier, H. J., 68
Pessen, Helmut, 30
Peterson, W. H., 42
Ping Shu, 68
Pinzelik, John, 293
Pivnick, Hilliard, 199, 204
Poe, Charles F., 112
Porges, Nandor, 262
Potter, N. N., 138
Pratt, Yolanda T., 171
Prouty, C. C., 250

Quastel, J. H., 70, 282

Randles, Chester, I., 217
Reitman, Morton, 14
Rodgers, R. D., 178
Rosenbaum, M. J., 247

Rudens, F. J., 68
Salle, A. J., 224
Schobeliel, P. G., 282
Shilo, Miriam, 330
Shilo (Shelubsky), Moshe, 330
Shternov, Vladimir A., 19
Siegel Michael, 18
Simpsen, F. J., 228
Smith Carolyn E., 124
Soltero, Fred V., 52
Sommermeyer, Lucille, 187
Spencer, Francis B., 82
Stahl, William H., 30
Stahl, Grant L., 217
Stark Egon, 236
Stedman, R. L., 142
Stoltz E. I., 24
Stone, Joseph L., 160, 166
Taylor, L. J., 211
Temple, Kenneth L., 255
Tetrault, Philip A., 236
Tomlinson, Neil, 156
Vaughn, Reese H., 82
Vera, H. D., 117
Walch, H. A., Jr., 224
Wedum, Arnold G., 14
Weichlein, Russell G., 259
Weiser, H. H., 57, 278
Wellerson, Ralph Jr., 236
White, L. S., 243
Wiesen, Carl F., 124
Williams, Anna Maria, 307
Winter, A. R., 278
Won, William D., 82
Wright, Eleanore S., 19

Subject Index

Acetone-butanol, fermentation of starches, 85
Aerobacter, fermentation of *i*-inositol by, 112
Activated sludge, isolation of floc-producing bacteria from, 259
Alcohols, effect on mycological production of citric acid, 1, 7
 microbiological degradation of plasticizers, 30
 polyhydric, fermentation of, 112
Amino acids, availability of, for *Lactobacillus plantarum* in cucumber fermentations, 320
 inhibiting effects of, upon micrococci in cream pastry, 195
w-Amino acids, quaternary ammonium derivatives of, 142
p-Aminobenzyl penicillin, activity and properties of, 163
Ammonium sulphate, efficiency of, in control of *Prymnesium parvum*, 330
***a*-Amylase paper disc tests**, bacterial, on starch agar, 236
Amylases of Streptomyces, 228
Animal feeds, assay of penicillin in, 150
Antibacterial prolongation of potential of disinfected surfaces, 19
Antibiotic production using sea water media, 224
Antibiotics, lactic acid starter cultures and, 24
 screening by replica plate method, 110
Antimicrobial action of glycerol ethers, 146
 quaternary ammonium derivatives of *w*-amino acids, 142
Aspergillus niger, influence of temperature on citric acid production, 156
Assay of bacitracin variables in the, 293
 see *Microbiological assay*
Azotobacter, action of 2,4-D upon, in sugarcane soils, 184

Bacillus stearothermophilus, bactericidal action of subtilin on, 215
Bacitracin, variables in assay of, 293
Bacteria, control of, in chicken salad, 278
 fermentation of *i*-inositol, 112
 ferrous iron oxidizing, 65
 formation of acid from coal effluents by 61, 65
 formation of acid in coal mines by autotrophic, 255
 growth of, in soluble oil emulsions, 199
 isolation of floc-producing, from activated sludge, 259
 preservation under paraffin oil, 36
Bacterial alpha amylase paper disc tests on starch agar, 236
 indicators, of pollution in surface waters, 119
 variants, assay of, by electrophoretic method, 178
Bactericidal action of laurylamine saccharinate, 211
 action of subtilin on *Bacillus stearothermophilus* 215
Bacteriophage, growth characteristics of lactic streptococcus, 138
 storage of lactic acid streptococci in desiccated state, 250
Bacteriostatic actions of laurylamine saccharinate, 211
Black raspberry molds, pectolytic activity of, 243
Blendor, infectious hazards of, 14
Bone marrow, microbiological study of, from slaughtered cattle, 57

Carbohydrate in penicillin production, 52
Cattle, microbiological study of lymph nodes, bone marrow, and muscle tissue from, 57
Cellulose, microbial activity on, by rumen fluid, 106
Chicken salad, control of bacteria in, 278
Citric acid, alcohols and mycological production of, 1, 7
 fermentation of crude carbohydrates, 7
 influence of temperature and trace elements on production of, 156
 surface and submerged culture, 1, 7

Clostridium acetobutylicum, acetone-butanol fermentation of starches, 85
Coal, autotrophic bacteria in formation of acid, 255
 bacteria in formation of acid from, 61, 65
Coliform bacteria, comparison with enterococci in sewage, 257
 test for water pollution, 119
Continuous feeding assembly for laboratory fermentations, 68
 in penicillin production, 208
Cream pastry, inhibiting effects of amino acids upon micrococci in, 195
Cucumber brines, effect of microorganisms on vitamins and amino acids of, 327
Cucumber fermentations, microbiological studies of, 314
 vitamins and amino acids for *Lactobacillus plantarum* in, 320
Culture preservation of bacteria under oil, 36

Dairy products of Iowa, microbacteria from, 47
Dairy wastes, aerobic treatment of, 262
Degeneration of Streptomyces griseus, 307
Desiccation and storage of lactic acid streptococcus bacteriophage, 250
Dextran, environmental factors on the molecular size of, 217
2,4-Dichlorophenoxyacetic acid, action of, upon *Azotobacter* of sugar cane soils, 184
 glycerol ethers and related compounds, 146
 prolongation antibacterial potential, 19
 quaternary ammonium derivatives of *w*-amino acids, 142
 see also germicides
Disinfected surfaces, prolongation antibacterial potential, 19
Disinfecting soluble oil emulsions, 204
Disinfection of clinical thermometers, 187
Dried-fruit beetles in figs, yeasts associated with, 174

Egg-products, enrichment media for isolating *Salmonella pullorum* from, 302
Electrophoretic method for the assay of bacterial variants, 178
Electro-ultrafilter, an efficient, 252
Enrichment broths, effect of, upon growth of *Salmonella*, 296
Enrichment media, for isolating *Salmonella pullorum* from egg-products, 302
Enterococci, comparison with coliform bacteria in sewage, 257
 test for water pollution, 119
Escherichia, fermentation of *i*-inositol by, 112
Escherichia coli, mutant of, Vitamin B₁₂ assay, 42
Esters, microbiological degradation of plasticizers, 30

Fermentation, laboratory continuous feeding assembly, 68
Ferrous iron oxidizing bacteria, 65
Figs, yeasts associated with dried-fruit beetles in, 174
Filtration of mass cultures of microorganisms, 168
Flavobacterium sp., ability to synthesize polysaccharides, 171
Floc-producing bacteria, isolation from activated sludge, 259

Germcidal value of chemical compounds in soluble oil, 204
 see also disinfectants
 testing quaternary ammonium, 271
Glycerol ethers, antimicrobial action of, 146
Growth factors, from B-complex vitamins of musts and wines, 97

Harvesting of mass cultures of microorganisms, 168
Hemicellulose, microbial activity on, by rumen fluid, 106
Humidity requirements for mold growth, 287

Infectious hazards of high speed blender, 14
 Inositol fermentation of, by *Escherichia* and *Aerobacter*, 112

Lactic acid starter cultures and antibiotics, 24
streptococcus bacteriophage, growth characteristics, 138
streptococcus bacteriophage, storage in desiccated state, 250

Lactobacillus plantarum, cause of "yeast spots" on olives, 82
 vitamins and amino acids for, in cucumber fermentations, 32

Laurylamine saccharinate, action against naso-pharyngeal tract bacteria, 211

Lignin, biological degradation of, 78, 171

Loop, multiple, large inocula, 18

Lymph nodes, microbiological study of, from slaughtered cattle, 57

Manometric method, microbial activity of rumen, 106

Mass cultures, harvesting of, 168

Merthiolate, addition of, to phenolized rabies vaccine, 135

Microbacteria, Iowa dairy products, 47

Microbial assay of penicillin in animal feeds, 150
 of vitamin B₁₂ mutant of *Escherichia coli*, 42

Microbial degradation of plasticizers, 30

Microbial study of cucumber fermentations, 314
 of lymph nodes, bone marrow, muscle tissue from slaughtered cattle, 57

Micrococcci in cream pastry, inhibiting effects of amino acids upon, 195

Microorganisms, effect of, on vitamins and amino acids in cucumber brines, 327

Mixer, see blender

Mold, growth and humidity requirements, 287

Molds, pectolytic activity of black raspberry, 243

Mueller medium, color density of tetanus toxin in, 160
 without native protein for tetanus toxin production, 166

Muscle tissue, microbiological study of from slaughtered cattle, 57

Musts, vitamin B-complex of, as microbial growth factors, 97

Neomycin, production of, in synthetic media, 103

Oil, disinfecting soluble, 204
 growth of bacteria in soluble, 199

Olives, *Lactobacillus plantarum* associated with "yeast spots", 82

Paper disc tests, bacterial *a*-amylase, 236

Paraffin oil, preservation of bacteria under, 36

Pectolytic activity of black raspberry molds, 243

Penicillin, assay of, in animal feeds, 150
 effect of carbohydrate on production of, 52
 production with continuous carbohydrate addition, 208

Plasticizers, microbiological degradation of, 30

Pollution, bacterial indicators of, in surface waters, 119

Polyporus versicolor, inability to metabolize lignin, 78

Polysaccharide synthesis from α -conidendrin, 171

Preservation, bacterial cultures under paraffin oil, 36

Prunus nigrum, control of, with ammonium sulphate, 330

Quaternary ammonium derivatives of *w*-amino acids, 142
 testing of germicides, 271

Rabies, improvement of vaccine potencies, 135
 degeneration of *Streptomyces griseus*, 307

Replica plate, screening antibiotic-producing organisms, 110

Rumen, manometric method for evaluation of microbial activity, 106

Salmonella, growth of, on enrichment broths and selective agars, 296
 isolation of, in selenite broths, 130

pullorum, enrichment media for isolating, from egg-products, 302

Sea water media, antibiotic production using, 224

Selective agars, effect of, upon growth of *Salmonella*, 296

Selenite broths, isolation of *Salmonella* in, 130

Sewage, comparison of coliform bacteria and enterococci in, 247

Soil nitrification and urethanes, 282
 perfusion, biological degradation of sulfite waste liquor, 96
 sugarcane, action of 2,4-D upon *Azotobacter* of, 184
 sulphur metabolism in, 70

Soluble oil emulsions, disinfecting, 204
 growth of bacteria in, 199

Starch agar, bacterial *a*-amylase paper disc tests on, 236

Starches, acetone-butanol fermentation of, 85

Starter cultures, antibiotics and lactic acid, 24

Sterility testing, 117

Streptococcus bacteriophage, lactic acid, growth characteristics, 138

Streptomyces fradiae, production of neomycin in synthetic media, 103
griseus, degeneration and regeneration of, 307

olivaceus, vitamin B₁₂ production by, 124

Streptomyces, amylases of, 228

Subtilin, bactericidal action of, on *Bacillus stearothermophilus*, 215

Sugarcane soils, action of 2,4-D upon *Azotobacter* in, 184

Sulfite waste liquor, biological degradation, 96

Sulfuritic constituents of coal, role of bacteria, 61, 65

Sulphur metabolism in soil, 70

Surface waters, pollution of, 119

Synthetic media, production of neomycin in, 103

Temperature, influence on citric acid production, 156

Tetanus toxin, increasing color density with decreasing toxicity in the Mueller medium, 160
 production of, in medium without native protein, 166

thermometers, disinfection of clinical, 187

Thiobacillus thiooxidans, acid from coal effluents by, 61

Thiosulphate, oxidizing organisms in soil, 70

Trace elements, influence of, and temperature on citric acid production, 156

Ultrafilter, an efficient electro-, 252

Urethanes and soil nitrification, 282

Vaccine, phenolized rabies, potencies improved by addition of merthiolate, 135

Vitamin B-complex of musts and wines as microbial growth factors, 97

Vitamin B₁₂, assay of, with mutant *Escherichia coli*, 42
 production with *Streptomyces olivaceus*, 124

Vitamins, availability of, for *Lactobacillus plantarum* in cucumber fermentations, 320

w-Amino acids, see amino acids

Waring blender, see blenders

Wines, vitamin B-complex of, as microbial growth factors, 97

Yeast cell, method for determining weight of a, 153

Yeasts associated with dried-fruit beetles in figs, 174

"Yeast spots" on olives, caused by *Lactobacillus plantarum*, 82



